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09/309,130	05/10/99	RAKAUSKAS	M 28572/32531A

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EXAMINER

KRUER, K

ART UNIT

PAPER NUMBER

1773

DATE MAILED:

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Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trad marks

Office Action Summary

Application No.
09/309,130

Applicant(s)

Rakauskas

Examiner

Kevin Kruer

Group Art Unit

1773



☒ Responsive to communication(s) filed on Jan 24, 2000

☒ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

☒ Claim(s) 14 and 17-54 is/are pending in the application.

Of the above, claim(s) _____ is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) 14 and 17-54 is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been
☐ received.

☐ received in Application No. (Series Code/Serial Number) _____.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☒ Notice of References Cited, PTO-892

☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). 3

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

Art Unit: 1773

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
2. Claims 37-42, 48, 53, and 54 are rejected under 35 U.S.C. 102(b) as being anticipated by Applicant's Admissions. Applicant admits that composite wood structures having an inner core substrate and veneer layer affixed to one or more major planar surfaces of the inner core substrate are well known in the art (see specification, page 1, lines 13-15). Typically, veneers in the past have comprised woods such as ash, birch, cherry, maple, oak, pine, poplar, and walnut (page 1, lines 16-22). Wood veneers may be secured to core substrates by lamination processes using resin binders in the form of resin-coated papers (page 1, lines 31-34). Commonly used resins include thermosetting materials such as melamine/formaldehyde resins (page 1, line 36). A resin coated paper may be placed between a veneer sheet and an inner core substrate to form a layered, composite wood structure. This layered structure is then heated in a compression molding press at a temperature of 130C to 150C for 20-40 minutes (page 2, lines 4-19). The initial heating causes the resin to melt and flow into the voids and pores of the core substrate and the veneer sheet. With a sufficiently long press cycle, the resin polymerizes and crosslinks into an intractable network structure (a thermoset) bonding the core substrate to the veneer (page 2, lines 4-19). High density fiberboard may be utilized as the core substrate (see specification, page 1, line 22).

While it is noted that Applicant does not admit that composite wood is commonly manufactured in the same manner as applicant, the rejected claimed are product claims and when

Art Unit: 1773

there is a substantially similar product, as in the applied prior art, the burden of proof is shifted to the applicant to establish that their product is patentably distinct, not the examiner to show that the same process of making. See *In re Brown*, 173 U.S.P.Q. 685, and *In re Fessmann*, 180 U.S.P.Q. 324.

Claim Rejections - 35 USC § 103

3. Claims 46 and 47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Admissions as applied to claims 37-42, 48, 53, and 54 above, and further in view of Guyette (Pat. No. 5,425,986).

Applicant's Admissions are relied upon as above. Applicant does not admit that the resin coated paper sheet should have a basis weight of about 40 pounds per ream to about 100 pounds per ream. However, Guyette teaches a high pressure laminate comprising a fiberboard core, and intermediate resin impregnated paper sheet or lamina, and a decorative paper or lamina (abstract). Guyette teaches that the intermediate resin impregnated paper should comprise a kraft paper having a weight of 25 to about 400 grams per square meter (col 3, lines 53-58). It would have been obvious to one of ordinary skill in the art to utilize a kraft paper with a weight of 25-400 grams per square meter as the resin coated paper of the laminate admitted by Applicant, because Guyette teaches that kraft paper with such weights are porous enough and strong enough to be used as intermediate resin impregnated sheets in wood composite laminates.

Furthermore, Applicant does not admit that the resin should comprise about 45-65wt.% of the resin-saturated sheet. However, Guyette teaches that the resin in the resin impregnated intermediate sheet should comprise 5 to 75 percent by weight of the resin impregnated

Art Unit: 1773

intermediate sheet. Therefore, it would have been obvious to one of ordinary skill in the art to utilize a resin-saturated sheet comprising 5-75wt.% resin because Guyette teaches that sheets comprising 5-75wt% resin exhibit sufficient adhesion to the surrounding substrates when utilized as intermediate layers in wood composite laminates.

4. Claim 49 is rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Admissions as applied to claims 37-42, 48, 53 and 54 above, and further in view of Hartman et al. (Pat. No. 4,239,577). Applicant's admissions are relied upon as above. Applicant does not admit that the veneer should comprise 7-10wt% water. However, Hartman teaches a wood laminate comprising a plurality of wood plies which are bonded together utilizing a thermosetting resin such as melamine-aldehyde. The laminates are pressurized and heated at conditions which are suitable for curing the melamine resin (col 4, lines 31-46). Hartman teaches that the outer veneer should comprise 7-25wt% water. Veneers with such moisture contents have reduced wood failure rates (col 2, line 49). Therefore, it would have been obvious to one of ordinary skill in the art to utilize an outer veneer with a water content of 7-25wt% because Hartman teaches that outer veneers which are heated and pressurized at conditions suitable for curing melamine resins should comprise 7-25wt% water in order to improve the wood failure rate.

5. Claims 43-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Admissions as applied to claims 37-42, 48, 53, and 54 above, and further in view of Brooker et al. (Pat. No. 5,723,221). Applicant's admissions are relied upon as above. Applicant teaches that melamine resin is commonly utilized as an adhesive in wood composite laminate but does not admit that the resin should comprise about 98wt% melamine. However, Brooker teaches that it is

Art Unit: 1773

well known in the art to utilize melamine aldehyde resins in both high and low pressure decorative laminates. To the melamine resin may be added a variety of fillers (col 2, lines 8+). Therefore, the examiner takes the position that it would have been obvious to one of ordinary skill in the art to utilize a resin composition comprising 98wt% melamine and 2wt% other fillers.

Applicant also does not admit that the adhesive resin may be a melamine/urea blend. However, Brooker teaches that urea-formaldehyde may be advantageously added discreetly or in combination with the melamine resin for use as an adhesive in both high and low pressure decorative laminates (col 3, lines 3+). Thus, the examiner takes the position that it would have been obvious to one of ordinary skill in the art to blend urea and melamine resins in such a way as to advantageously effect the adhesion of the laminate. The courts have held that when the general conditions of a claim are known in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation. *In re Aller*, 220 f.2d 456, 105 USPQ 233, 235, (CCPA 1955). Therefore, the examiner takes the position that it would have been obvious to one of ordinary skill in the art to utilize the melamine and urea in any combination in order to optimize adhesion, reduce shrink, and optimize processing time and costs.

Claim Rejections - 35 USC § 103

6. Claims 14, 17, 18, 26-30, 37-42, and 50-54 are rejected under 35 U.S.C. 103(a) as being unpatentable over J.R. McClain (Pat. No. 1,299,747) in view of Applicant's Admissions and E. Reiss (Pat. NO. 3,502,533). McClain teaches a veneered wood substrate wherein an adhesive impregnated sheet of porous, fibrous material, such as paper, is interposed between the sheets of wood or other material which are to be united (col 2, lines 64-73). The layers to be united may

Art Unit: 1773

have different thicknesses so long as the layers to be united are each thicker than the impregnated fibrous layer (col 4, lines 102-114). The stack is then treated in a suitable manner such as by the application of heat and pressure to first soften the adhesive, in order to bring the adhesive into intimate contact with the surfaces to be united, and then hardened so as to provide a strong bond between the surfaces (col 2, lines 84-100). Solvent is removed from the impregnated sheet prior to lamination in order to prevent the laminated layers from absorbing the adhesive's solvent (col 3, lines 20-29). The fibrous sheet material substantially increases the strength of the finished product, as it provides a strong, thin, supporting sheet between adjacent layers of wood. This tends to prevent any splitting or breaking away of any part of the lumber (col 3, lines 30-37).

The examiner would like to point out that, for examining purposes, a "veneer layer" is taken to be a layer of wood of superior value or excellent grain to be glued to an inferior wood (as defined by Merriam Webster's Collegiate Dictionary). Furthermore, the examiner takes the position that it is well known in the art that the veneer layer of a wood composite is usually much thinner than the core to which it is laminated. This is because the visible veneer layer usually consists of flawless, expensive wood, whereas the core may comprise consolidated wood scrap, or veneers with aesthetic imperfections. Therefore, it would have been obvious to one of ordinary skill in the art to utilize a relatively thin wood veneer for the visible surface of the laminate taught in McClain in order to reduce processing cost.

McClain teaches that any desired adhesive may be utilized, but does not suggest the use of melamine adhesives in the impregnated sheets. However, Applicant admits that melamine/formaldehyde resins are commonly used to secure wood veneers may to core substrates

Art Unit: 1773

by lamination processes in the art. Therefore, the examiner takes the position that it would have been obvious to utilize a melamine/formaldehyde resin as the adhesive impregnating material taught in McClain.

McClain does not teach that the laminated wood product should comprise a second resin saturated sheet layer disposed on the non-veneered surface of the wood core. However, Reiss teaches that melamine resin impregnated papers have a tendency to shrink under heat and pressure during lamination to a wood substrate, thus leading to warping. To prevent such a problem, it has been customary in the art to laminate a balance sheet of the same impregnated material to the under surface of the substrate (col 1, lines 30-49). Therefore, the examiner takes the position that it would have been obvious to one of ordinary skill in the art to laminate a balance sheet comprising an impregnated sheet to the non-veneered surface of the wood laminate taught in McClain in order to prevent warping caused by the adhesive impregnated sheet. Furthermore, it would have been obvious to one of ordinary skill in the art that the "balance sheet" should have been laminated to the opposite side of the thicker wood layer (in the case of veneered substrates, the thicker wood layer would usually be the core layer) in order to balance the stress of the veneered substrate, which would have been in the direction of the thinner (aka the veneer) wood layer.

While it is noted that McClain does not manufacture the product in the same manner as applicant, the rejected claimed are product claims and when there is a substantially similar product, as in the applied prior art, the burden of proof is shifted to the applicant to establish that

Art Unit: 1773

their product is patentably distinct, not the examiner to show that the same process of making.

See *In re Brown*, 173 U.S.P.Q. 685, and *In re Fessmann*, 180 U.S.P.Q. 324.

7. Claims 24, 36, and 48 are rejected under 35 U.S.C. 103(a) as being unpatentable over J.R. McClain (Pat. No. 1,299,747) in view of Applicant's Admissions and E. Reiss (Pat. NO. 3,502,533) as applied to claims 14, 17, 18, 26-30, 37-42, and 50-54 above. McClain in view of Applicant's Admissions and Reiss is relied upon as above. McClain teaches that wood or other material may be employed as the substrate sheet (col 4, lines 94-98), but does not teach that fiberboard or particle board may be utilized as the substrate of the veneered laminate. However, Applicant admits that high density fiberboard may be utilized as the core substrate of a veneered laminate (see specification, page 1, line 13 through page 3, line 23). Therefore, the examiner takes the position that it would have been obvious to one of ordinary skill in the art to utilize high density fiberboard as the substrate of the veneered laminate taught in McClain in order to reduce cost and weight because Applicant admits that high density fiberboards are commonly used as the core substrate of a veneered laminate.

8. Claims 25 and 49 are rejected under 35 U.S.C. 103(a) as being unpatentable over J.R. McClain (Pat. No. 1,299,747) in view of Applicant's Admissions and E. Reiss (Pat. NO. 3,502,533) as applied to claims 14, 17, 18, 26-30, 37-42, and 50-54 above, and further in view of Hartman et al. (Pat. No. 4,239,577). McClain in view of Applicant's admissions and Reiss is relied upon as above. Neither McClain nor Reiss teaches, nor does Applicant admit that the veneer should comprise 7-10wt% water. However, Hartman teaches a wood laminate comprising a plurality of wood plies which are bonded together utilizing a thermosetting resin such as

Art Unit: 1773

melamine-aldehyde. The laminates are pressurized and heated at conditions which are suitable for curing the melamine resin (col 4, lines 31-46). Hartman teaches that the outer veneer should comprise 7-25wt% water. Veneers with such moisture contents have reduced wood failure rates (col 2, line 49). Therefore, it would have been obvious to one of ordinary skill in the art to utilize an outer veneer with a water content of 7-25wt% because Hartman teaches that outer veneers which are heated and pressurized at conditions suitable for curing melamine resins should comprise 7-25wt% water in order to improve the wood failure rate.

9. Claims 19-21, 31-33, and 43-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over J.R. McClain (Pat. No. 1,299,747) in view of Applicant's Admissions and E. Reiss (Pat. NO. 3,502,533) as applied to claims 14, 17, 18, 26-30, 37-42, and 50-54 above, and further in view of Hartman et al. (Pat. No. 4,239,577). McClain in view of Applicant's admissions and Reiss is relied upon as above. Neither McClain nor Reiss teaches, nor does Applicant admit that the melamine may be compounded with filler. However, Hartman teaches that adhesives known in the art to be useful for preparing wood laminates include urea-aldehyde resins and melamine aldehyde resins (col 3, lines 25-32). Such adhesives may further include catalysts, accelerators, and fillers (col 3, line 54- col 4, line 6). Therefore, it would have been obvious to use an adhesive comprising 98% melamine and 2% filler because Hartmann teaches that such adhesives are known to be used in wood laminates. Filler would be used to speed the reaction, or reduce processing cost.

Furthermore, Neither McClain nor Reiss teaches, nor does Applicant admit that the adhesive might comprise a melamine/urea blend. However, Hartmann teaches that such resins are

Art Unit: 1773

known to be blended together and used as wood laminate adhesives. Thus, the examiner takes the position that it would have been obvious to one of ordinary skill in the art to blend urea and melamine resins in such a way as to advantageously effect the adhesion of the laminate. The courts have held that when the general conditions of a claim are known in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation. *In re Aller*, 220 f.2d 456, 105 USPQ 233, 235, (CCPA 1955). Therefore, the examiner takes the position that it would have been obvious to one of ordinary skill in the art to utilize the melamine and urea in any combination in order to optimize adhesion, reduce shrink, and optimize processing time and costs.

10. Claims 22, 23, 34, 35, 46 and 47 are rejected under 35 U.S.C. 103(a) as being unpatentable over J.R. McClain (Pat. No. 1,299,747) in view of Applicant's Admissions and E. Reiss (Pat. NO. 3,502,533) as applied to claims 14, 17, 18, 26-30, 37-42, and 50-54 above, and further in view of Guyette (Pat. No. 5,425,986). McClain in view of Reiss and Applicant's Admissions is relied upon as above. Neither McClain nor Reiss teaches nor does Applicant admit that the resin coated paper sheet should have a basis weight of about 40 pounds per ream to about 100 pounds per ream. However, Guyette teaches a high pressure laminate comprising a fiberboard core, and intermediate resin impregnated paper sheet or lamina, and a decorative paper or lamina (abstract). Guyette teaches that the intermediate resin impregnated paper should comprise a kraft paper having a weight of 25 to about 400 grams per square meter (col 3, lines 53-58). It would have been obvious to one of ordinary skill in the art to utilize a kraft paper with a weight of 25-400 grams per square meter as the resin coated paper of the laminate admitted by

Art Unit: 1773

Applicant, because Guyette teaches that kraft paper with such weights are porous enough and strong enough to be used as intermediate resin impregnated sheets in wood composite laminates.

Furthermore, Applicant does not admit that the resin should comprise about 45-65wt.% of the resin-saturated sheet. However, Guyette teaches that the resin in the resin impregnated intermediate sheet should comprise 5 to 75 percent by weight of the resin impregnated intermediate sheet. Therefore, it would have been obvious to one of ordinary skill in the art to utilize a resin-saturated sheet comprising 5-75wt.% resin because Guyette teaches that sheets comprising 5-75wt% resin exhibit sufficient adhesion to the surrounding substrates when utilized as intermediate layers in wood composite laminates.

Response to Arguments

11. Applicant's arguments filed January 24, 2000 have been fully considered but they are not persuasive. Applicant argues that claim 19 is presumed to be allowable since there is not stated basis for its rejection. However, the examiner points out that Paragraph #8 of Paper #4 clearly addresses the issues of claim 19, and was intended to read on claims 19-21, not 20-22. Thus, the examiner takes the position that anyone who read the rejection would have immediately noticed that the claims addressed in paragraph #8 were 19-21.

Applicant also argues that Applicant's admissions did not teach a "resin saturated sheet," and therefore, was not properly applied as a U.S.C. 102 rejection. However, the examiner would like to point out that the paper becomes saturated when the laminate is treated with heat and pressure. Thus, since there is apparently no difference between the final laminate regardless of

Art Unit: 1773

whether the paper is coated or saturated prior to lamination, the examiner takes the position that Applicant's admissions were properly applied as a U.S.C. 102(b) rejection.

Applicant also argues that Applicant's admissions did not teach a laminate wherein a veneer was applied to only one side of the substrate. However, the examiner would like to point out that no claims were originally limited to a laminate on which was applied one veneer. The newly applied art is directed to teachings wherein a veneer is applied to only one side of the substrate layer.

Furthermore, applicant argues that the admissions do not teach the use of a rigid substrate with two substantially flat sides. However, Applicant admits that high density fiberboard has been used as the core of veneered laminates. The examiner takes the position that a high density fiberboard is both rigid and has two substantially flat sides. Thus, Applicant's arguments are not persuasive.

Conclusion

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

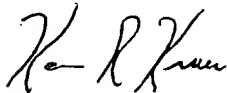
Art Unit: 1773

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

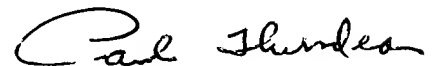
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin R. Kruer whose telephone number is (703) 305-0025. The examiner can normally be reached on Monday-Friday from 7:00 a.m. to 4:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Thibodeau, can be reached on (703) 308-2367. The fax phone number for the organization where this application or proceeding is assigned is (703)305-5436.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-0651.



Kevin R. Kruer
Patent Examiner



Paul Thibodeau
Supervisory Patent Examiner
Technology Center 1700